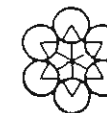


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ASSOCIATION INTERNATIONALE POUR L'ETUDE DES ARGILES
INTERNATIONAL ASSOCIATION FOR THE STUDY OF CLAYS
INTERNATIONALE VEREINIGUNG ZUM STUDIUM DER TONE
МЕЖДУНАРОДНАЯ АССОЦИАЦИЯ ПО ИЗУЧЕНИЮ ГЛИН

newsletter N° 26 february 1989*

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PRESIDENT'S PODIUM

My first and pleasant duty as the new President of AIPEA is to thank my predecessor, Professor Jiri Konta, for his outstanding leadership during his four years in office. My sincere thanks also to the members of the Council for the excellent work they have done in the service of AIPEA.

I also want to express my sincere gratitude to you all for the honour you have bestowed upon me, by selecting me as President of AIPEA, a society which, since its foundation, has demonstrated a great activity in promoting international cooperation in the world of clay research. I will do my best to fulfill the task of the Presidency with all my dedication and abilities, trying to match the excellent work done by the personalities who preceded me in office.

We had a highly successful conference in Strasbourg, where the Institute of Geology of the University, a center of excellence in the field, provided the appropriate environment for the event. I take the opportunity to express our sincere recognition to the group of the Institute of Geology, and in particular to Prof. Millot, who managed it for many years, for their outstanding scientific achievements. It was certainly encouraging and gratifying to see him around during the Conference and to feel his support and patronage.

We all acknowledge the high scientific level of the general lectures and of the contributions presented in the scientific sessions and the quality and variety of the social entertainment. We are very grateful indeed to the organizing committee and in particular to its Chairman, Professor Yves Tardy and to its Secretary-General, Dr. Hélène Paquet for having organized an excellent conference.

Clay research includes a broad range of scientific disciplines and many research styles which are linked together by crucial interconnections making so fascinating this field of research. From the papers presented in the conference and from the recent literature one notices the progress of some trends that have been operative for several years and that demonstrate the vitality of the field. I like to mention a few of them, restricted to my research areas: a) The increased ability to characterize clay minerals on a microscopic scale due to the development of a vast array of experimental techniques (EXAFS, NMR, EPR, Mössbauer and other spectroscopic techniques) that are sensitive to short range interactions and, therefore, are complementary to diffraction methods. Also, the availability of synchrotron radiation and neutron sources opens new possibilities for the study of clay minerals; b) The use of phyllosilicates as model systems for the study of some fundamental

phenomena of a more general character (interparticle forces in colloid systems or the arrangement and reactivity of adsorbed molecules); c) The detailed structural analysis of clay minerals that has led to the development of special methodologies, susceptible to be applied to other layered compounds of significant scientific and technological interest (layered chalcogenides, graphite, perovskite, etc.). This has led to a cross-fertilization of ideas among scientists who, until recently, have ignored each other without realizing the similarities of their problems; d) The increased focus on understanding and controlling the processes used to modify clay minerals in order to tailor specific properties for practical applications (a good example is the research on pillared clays).

This revival of interest in clay research is, in my belief, a consequence of the increased participation of scientists of different disciplines (Physical Chemistry, Solid State Chemistry, Condensed Matter Physics, Catalysis, etc.) who collaborate more and more with clay mineralogists, working traditionally in Departments of Geology or Soil Science. It is through these interconnections that significant contributions to the knowledge of clay minerals can be envisaged and this Presidency will dedicate a particular effort to the propagation of our activities in other scientific forums in order to promote all kinds of scientific collaboration. We trust that many more scientists, especially those of the young generation, can be attracted to clay research. It is also the intention of this Presidency to promote the establishment of regional groups in those parts of the world where clay research is emerging.

The next international conference will take place in Adelaide, Australia, and is planned for July 18-25, 1993. Our Australian colleagues have already started with the arrangements for the conference, and we are quite sure that they will prepare an excellent meeting. We look forward to meet all of you there in 1993.

J.M. Serratosa

COUNCIL AFFAIRS

Two council meetings were held during the 9th ICC in Strasbourg. Most items discussed by the outgoing council are reported in the minutes of the business meeting of the general assembly. The most important decisions taken by the newly elected council are given below.

1. Bradley Award Committee.

The composition of the Bradley Award Committee for the 1993 Bradley award is: J. Serratosa (president), Spain; H. Chamley, France; G. Lagaly, F.R.G.; V. Drits, USSR and J. Dixon, USA.

2. Nomination committee.

The nomination committee for the 1993 elections is J. Serratosa (president), J. Konta, Z. Zheng, J. White and F. Loughnan.

3. Nomenclature committee.

Prof. S.W. Bailey remains chairman of the nomenclature committee. The members are: A. Alietti (Italy), M.L.L. Formoso (Brazil), H.M. Koster (F.R.G.), D.J. Morgan (U.K.), K. Nagasawa (Japan), H. Paquet (France), E. Galan (Spain), B.B. Zvyagin (USSR), V. Drits (USSR); Ex officio: D.C. Bain (editor Clay Minerals) and F.A. Mumpton (editor Clays and Clay Minerals).

4. Teaching Committee

Prof. J. Dixon remains chairman. Members are: R. Fitzpatrick and A. Banin.

5. SPT committee

The final report of the SPT committee was presented and discussed at the 9th ICC in Strasbourg. The council thanks prof. J. Thorez and his committee members for their efforts.

6. AIPEA Awards

The council accepted the proposal of the president to give awards to outstanding clay scientists. The past-president, J. Konta, will prepare a set of rules.

7. The next council meeting will take place in Dresden in 1991.

**MINUTES OF THE BUSINESS MEETING OF THE
GENERAL ASSEMBLY
Strasbourg, august 31, 1989**

1. Opening and wellcome

J. Konta, president, wellcomes the AIPEA membership. He asks for one minute of silence to memorate the death of two eminent clay scientists: prof. F. Chukrov, AIPEA president 1969-1972, at the age of 80 and prof. R. Grim at the age of 87.

2. Agenda and minutes of business meeting of general assembly in Denver

The agenda of the present business meeting and the minutes of the business meeting of the general assembly in Denver, published in newsletter N° 22 are approved without comments.

3. President's report 1986-1989

The bi-annual council meeting and the four-annual general assembly are occasions, at which the AIPEA president, council officers and other council members as well as the editor-in-chief and sometimes the chairmen of the committees have an opportunity or duty to explain shortly the main events in their agenda.

In my brief presidential report I like to review some of the significant aspects of the past four years period, since the 8th ICC in Denver. The most important events were published each year in the AIPEA newsletter, which is thoroughly edited by the secretary-general and acting secretary-general. Our secretary-general, Prof. A. Herbillon, took up a new position as director of the Centre de Pédologie Biologique in Nancy (France). This made it impossible for him to continue his duties as secretary-general. The AIPEA council appointed Prof. R. Schoonheydt from the Laboratory for Surface Chemistry of the Catholic University of Leuven, Belgium, as acting secretary-general for the period starting with the council meeting in Sevilla until today. In my opinion, prof. Schoonheydt, as prof. Herbillon, proved to be the right man in this responsible position of the AIPEA council.

Our treasurer, Dr. C. De Kimpe, has done an outstanding job in improving the membership of AIPEA. He prepared a new membership directory which will be available soon. He still has a problem with some members, who did not pay their dues for several years. The finances of AIPEA are sound, so that we can continue all our activities.

AIPEA has continuous good relationships with the International Union of Geological Sciences and with the International Mineralogical Association, as well as with the newly constituted European Clay Groups Association.

In 1988, I submitted a copy of a letter from Dr. P. Vincenzini, the chairman of the 7th World Ceramic Congress, to the officers and members of the AIPEA council. We were asked to join the 7th CIMTEC-World Ceramic Congress to be held in Italy from June 24 to 30, 1990, as one of the endorsing organizations. Our council agreed to do so, as there were no financial implications. We also agreed to promote the congress among the AIPEA membership.

The editor-in-chief of Clays and Clay Minerals, Dr. Frederick A. Mumpton, was so kind to write the paper "The Universal Recipe or how to get your Manuscript accepted by pernickety Editors". It was published in Newsletter N° 24. His paper attracted the attention, not only of the youngest clay scientists, among them the Bradley award competitors, but also of other authors, who intend to submit their manuscripts for publication in the Conference Proceedings or in the clay journals. I think that such a practical and illuminating paper, written by one of our skilled members, should appear in the AIPEA newsletter each year.

Similarly, prof. J. Thorez, chairman of the Standardization of Preparation Techniques Committee, published the conclusions of the final report of the committee in newsletter N° 25, 1989. Prof. Thorez delivered a special lecture on the work of his committee on Monday afternoon. The chairmen of the other committees will present their reports in the course of this general assembly.

The Bradley award selection committee, composed of prof. J. Fripiat, prof. E. Galan, Prof. R. Giese, prof. K. Wada and the president of AIPEA, carefully evaluated the five manuscripts, submitted for the Bradley Award competition. Each paper was judged on the following criteria (1) the importance of the question studied; (2) the experimental approach; (3) aim and degree of realization; (4) direct contribution to clay science; (5) originality (new ideas). The highest score was obtained by Dr. Jos Cenens with his paper "Quantitative Adsorption Spectroscopy of Cationic Dyes on Clays". Dr. Cenens is currently employed in the Shell Research Centre, Louvain-la-Neuve, Belgium. I must say that the manuscripts of the four other competitors also had high or very high scientific standards.

The organizing committee of the 7th Euroclay meeting in Dresden invites the AIPEA council to attend the meeting and to have a council meeting there.

On behalf of the AIPEA council I like to express deep our appreciation for Prof. Tardy and Dr. H. Paquet and their co-workers for their great efforts devoted to the organization of the 9th ICC. I also appreciate the great amount of work put into the management of AIPEA by the secretary-general, the acting secretary-general and the treasurer. My warm thanks go to the chairmen of the AIPEA committees: prof. Bailey, prof. Dixon and prof. Thorez. Their reports on the activities of their committees are published in the newsletter or as special publications. Three AIPEA members developed instructional material for teaching clay mineralogy. To all members of the committees on nomenclature, on teaching and on standardization of preparation techniques, of the nomination committee and of the Bradley award committee I give my sincere thanks.

The reports on the activities of other officers and the editor-in-chief will follow. I like to draw your special attention to the efforts of our treasurer to make order in the membership list.

4. Report of the secretary-general

At the council meeting in Sevilla on September 8, 1987 the secretary-general, prof. A. Herbillon asked to be relieved from his duties as secretary-general and to appoint an acting secretary-general in accordance with article 11 of the statutes. The council agreed and appointed prof. Robert Schoonheydt as acting secretary-general for the period starting on September 8, 1987 until the next business meeting of the general assembly in Strasbourg. This report is prepared jointly by the secretary-general and the acting secretary-general.

4.1. Newsletters 22-25

The main effort of the secretary-general and the acting secretary-general went into the publication of the annual newsletter. The two main items in the newsletter are the president's podium and the reports of the activities of the national clay groups. Between 14 and 18 liaison officers out of 27 responded to our request for a report to be published in the newsletter. The distribution is as follows:

Number of reports	Number of responses
4	11
3	3
2	5
1	3
0	5

The liaison officers of Brasil, Mexico, Switzerland, Jordan and Roumenia never responded. Other regular topics were reports of the council affairs and of the international and European clay meetings. Two special topics are worth mentioning: an article by F.A. Mumpton, editor-in-chief of Clays and Clay Minerals, on how to write a scientific paper in newsletter N° 24; and the statutes of the European Clay Groups Association in newsletter N° 25.

The change from secretary-general to acting secretary-general brought about a change of printer. Newsletters 24 and 25 have therefore a smaller size. The 1988 contribution of Israel somehow did not reach the acting secretary-general's office in time and was published in the 1989 newsletter. The new printer lost the year and the number of the 1989 newsletter. Everything is settled now to have smooth publication in the future.

4.2. Membership

The council discussed the problem of the membership at its Sevilla meeting. An appreciable number of members pay their dues too late or not at all. In april 1989 the treasurer had a file of 754 members. If only those are retained, who paid their dues until at least 1985 the number is 619, divided over 38 countries. There are also 30 institutional members. The secretary-general reported at the business meeting of the general assembly of 1985 in Denver 878 individual members and 39 institutional members. The membership list is now in a database on computer. The list will be updated after the Strasbourg meeting and will be produced for dispatching to the members together with the 1990 newsletter. The secretary-general stresses that there are two main advantages to be a member of AIPEA: (1) the members are informed about the activities in clay science all over the world; (2) the members obtain a substantial reduction in registration fee of the international conferences.

4.3 Affiliated societies

The Czechoslovakian national clay group has asked to become an affiliated society. This was approved by the council in its meeting on august 27, 1989. The affiliated societies are:

- Clay Minerals Groups of the Mineralogical Society of Great Brittain and Ireland;
- Clay Science Society of Japan
- Belgian Contact Group on Clays
- Israel Society for Clay Research

- Geological Society of China
- Gruppo Italiano of AIPEA
- Nordic Clay Group
- Australian Clay Minerals Society
- Clay Minerals Society of the USA
- Clay Interest Group of MINSA (South Africa)
- Deutsche Ton und Tonminerale Gesellschaft (DTTG)
- Sociedad Espanola de Arcillas (Spain)
- Czechoslovakian National Clay Group (Czechoslovakia)

4.4 Bradley Award

The Bradley award was announced in the 1988 newsletter 24. All the liaison officers received the announcement for distribution among the AIPEA members in their countries. The announcement was also mailed to the editors of the clay journals. Five original papers were received for the Bradley award competition.

4.5 International Union of Geological Sciences

Annual reports of the activities of AIPEA were mailed to the IUGS secretariat. A survey report 1984-1988 was also prepared and sent to the IUGS secretariat.

4.6 National Clay Groups

The secretary-general and the acting secretary-general of AIPEA thank the national clay groups and their liaison officers for their contribution in keeping AIPEA a healthy society. A new situation is created with the foundation of the European Clay Groups Association (ECGA). We hope that with the ECGA the relations between the European clay groups and AIPEA will even be stronger than they were before.

We are pleased to learn that the Spanish Clay Society is encouraging their Portuguese colleagues to create a Portuguese Clay Society and that the clay minerals group of The Netherlands is considering an affiliation with AIPEA.

4.7. Question from the floor

Is it possible to obtain copies of notes or papers published in the newsletter? Answer: This is possible at all times by simple request to the secretary-general.

5. Report of the treasurer

5.1 Abstract of income and expenditure for the period January 1st 1985 to December 31st 1988

INCOME	US\$	US\$
Brought forward		22,519.49
Membership fees		7,763.50
Bank interest		6,583.47
Total income		36,866.46

EXPENDITURES

Newsletter and secretary expenses	5,621.96
Travel expenses of council members	3,488.59
Office expenses	32.00
Award	1,000.00
Total expenditure	10,142.55

Excess of income over expenditure 26,723.91

ASSETS IN US\$

Cash in bank (general fund)	6,545.43
Travel fund	12,325.33
W.F. Bradley award fund	4,166.92
Special fund	3,686.23
Total	26,723.91

INCOME	CAN\$	CAN\$
Balance brought forward		474.92
Bank interest		58.11
Membership fees		582.52
Total income		1,115.55

EXPENDITURES

Office supplies	58.68
Labels	112.10
Service charge	1.00
Total expenditure	171.78

Excess of income over expenditure 943.77

5.2 Report on financial operations

5.2.1. Membership fees

When I took over the office of treasurer, I realized that a large number of members were late in paying their fees. This was due in part to the fact that CMS used to collect fees for U.S. members, but this practice was abandoned. Also, many members thought that CMS membership also included AIPEA affiliation. There was also a lack of information about the status of each individual member with regards to fee payment. I put the membership list on computer file. This helped me to trace more quickly the status of all members.

The present situation for the individual members is as follows :

country	total in file	paid '85 or later
Argentina	3	3
Australia	16	9+2
Austria	4	3
Belgium	37	37
Brasil	10	5
Bulgaria	1	1
Canada	27	21
China	4	4
Czechoslovakia	4	2
Denmark	3	3
Finland	1	0
France	129	123
German Dem. Rep.	1	0
German Federal Rep.	23	20
Greece	2	1
Hungary	2	0
Iceland	1	1
India	2	1
Iran	1	0
Iraq	1	0
Ireland	1	1
Israel	25	20
Italy	93	93
Japan	34	24
Jordan	2	0

Jugoslavia	7	4
Korea	2	1
Libya	1	0
Mexico	2	1
Netherlands	10	4
New Zealand	8	8
Nigeria	2	1
Norway	9	4 + 1
Poland	5	3
Portugal	1	1
Rumania	3	0
Saudi Arabia	2	2
South Africa	10	10
Spain	32	16
Sweden	5	2
Switzerland	5	4
Tunisia	1	1
United Kingdom	25	20
United States	209	159
USSR	3	2
Venezuela	1	1
Total	770	619
Countries	46	38

I tried to improve the situation using the following means :

- each address label includes the last year of payment of the membership fee ;
- all liaison officers were contacted for assistance in collecting the fees ;
- a membership status was posted at the CMS meeting for all U.S. members ;
- all U.S. members who did not pay since 1985, were asked to pay their fees.

This certainly helped to improve the situation. However, there are still 150 members who did not pay their dues since 1985, i.e. 4 years. This corresponds to a shortfall of \$600/yr or \$2,400 up to now. This situation is unfair for all members who do pay their dues annually.

Therefore, the new membership directory will contain only the names of the members who paid their fee in 1985 or later. I donot think that an association will be respected unless something is done to remedy this kind of situation.

I would like to introduce a rule requesting payment (possibly advanced payment) for four years, covering the period from one international conference to the next.

5.2.2. Countries represented in AIPEA

Individuals from 46 countries are registered in the membership file. However, this number decreases to 38 if only members having paid in 1985 or later are considered. Twelve (11) national groups are affiliated with AIPEA. The national group of Czechoslovakia asked recently for affiliation.

5.2.3. Institutions

Twenty four (19) institutions have affiliation with AIPEA. They originate from 10 (9) countries, but most are from Italy.

5.2.4. Life membership.

Members who are eligible for life membership after their retirement should let us know, so that we can change the file accordingly.

5.2.5. Promotion.

There is probably a need for promotion. This could be achieved through advertisement in various clay and soil journals and also by personal contacts of individual members.

5.3. I would appreciate the help of all members to inform me about the deceased members. This is essential to keep the membership file updated.

6. Editor-in-chief's report.

In the absence of prof. Tardy the acting secretary-general summarized the procedure for publication of the proceedings of the 9th ICC as follows. About 60 papers will be published in Sciences Géologiques: three issues with 20 papers each. The manuscripts must be submitted before the end of the conference so that the refereeing procedure can start immediately. Publication will be in the first half of 1990.

7. Reports of the committees

7.1. Nomenclature committee (prof. S.W. Bailey)

Ten committee members met in Strasbourg on August 30, 1989, in conjunction with the 9th International Clay Conference.

The committee noted a frequent misuse of structural terms. Therefore the report of the nomenclature committee will be published separately in newsletter N° 26.

7.2. Teaching clay mineralogy (prof. J. Dixon)

At the Denver meeting of AIPEA I was asked to develop a minigrant program to promote the teaching of clay mineralogy and \$1000 was designated to fund the program. Announcements of the program were made in AIPEA and Clay Minerals Society newsletters and by individual contact. Three offerings were submitted and are scheduled to be presented in Strasbourg. The three scientists were awarded \$325 each for their entry and their willingness to present it to the 9th ICC. There are several other teaching clay mineralogy participants and all of them have been asked to prepare a handout to be distributed at the symposium that represents key aspects of their presentation: introduction, method, results, data and key references so that a student and professor could use the method or concepts readily in class. An example was provided. I anticipate a very stimulating set of presentations and discussions in Strasbourg. The full symposium is listed below:

1. W.F. Bleam - Solving clay mineralogy problems with new physical methods.
2. J.B. Dixon - Synthesis of Todorokite for teaching and research.
3. H. Kodama - Use of color-coded transparent sheets for visualizing layer silicate structures.
4. D.G. Schulze and P.J. Hess - An interactive computer program for teaching clay mineral structural concepts.
5. J.W. Stucki and P.F. Low - Instructional software for teaching double-layer theory.
6. B. Fritz - Computer use for investigating clay minerals.
7. R.A. Eggleton - Mineral weathering changes revealed by high resolution transmission electron microscopy.
8. S.P. Altaner - Properties of 2:1 layer silicate revealed by nuclear magnetic resonance methods.
9. C.W. Childs and R.L. Parfitt - Occurrence and analysis of ferrihydrite and allophane in soils and sediments.

10. J. Thorez - Final report of the committee on the standardization of preparation techniques.

Looking into the future

I offer the following suggestions for the next teaching clay mineralogy chair:

1. Staff the committee promptly, at the 9th ICC as far as possible to get the process started while people are together. Locating interested people on an international scale is not easy. Try to develop an international set of clay teachers and other interested supporters that cuts across the important disciplines e.g. mineralogy, soil science, geology, chemistry and applied physics.
2. At the present, in the USA at least, we are short of quality clay-oriented students at the graduate level. Advertising the career opportunities needs to be done. Announcements of the 10th ICC plans and other related news should be prepared and published in AIPEA and national newsletters to inform students how they can participate. Prepare announcements in bold format so that they can be photocopied and posted on bulletin boards or circulated to students.
3. I believe the minigrant program should be continued and that student participation should be encouraged. Yet I believe the success of the Strasbourg teaching sessions should be a guide to future efforts.
4. I am willing to assist in the future with this program if needed for continuity.
5. During the tenure of this committee many people have assisted with its activities. The following participants are gratefully acknowledged: P.L. Huff, R.C. Reynolds Jr., T.J. Pinnavaia, D.G. Schulze and J. Thorez.
During the course of the 9th ICC about 50 names and addresses of individuals have been gathered. They have expressed interest in teaching clay mineralogy. They will be contacted by the chairman, prof. J. Dixon in the future.

7.3 Standardization of Preparation Techniques (prof. J. Thorez)

The final report has been submitted to the members of the council of AIPEA and to the scientists that have participated in the program. The conclusions have been published in newsletter N° 25. They were highlighted again by prof. J. Thorez in his lecture at the 9th ICC. Those who are interested in the full final report should contact prof. J. Thorez.

8. 1993 International Clay Conference

One proposal, prepared by Australian clay scientists in collaboration with their colleagues from New Zealand, was submitted to the council. Because of the solid reputation of the scientists, who have submitted the proposal, of the high scientific standards of clay science in Australia and New Zealand, and of the detailed and convincing proposal, the council has accepted the proposal and recommends it to the general assembly. This recommendation was accepted by the general assembly with applause. The site will be Adelaide and the period July 18-25, 1993.

9. Election of the new council

The nomination committee has made a proposal which was accepted by the council. The composition of the new council was approved by the general assembly and is as follows:

President	J. Serratos (Spain)
Vice-president	K. Wada (Japan)
Past-president	J. Konta (Czechoslovakia)
Secretary-general	R. Schoonheydt (Belgium)
Treasurer	C. De Kimpe (Canada)
Councillors	C. Farmer (U.K.), second term
	E. Galan (Spain), second term
	J. Quirk (Australia), second term
	Z. Zheng (P.R. China), first term
	D. Eberl (USA), first term
	Y. Tardy (France), first term.

One more councillor has to be appointed by the organizing committee of the 10th ICC.

10. Other business

10.1 The Czechoslovakian national clay group has been accepted as an affiliated society.

10.2 The general assembly expresses its appreciation for the presidency of prof. J. Konta by applause.

REPORT OF THE AIPEA NOMENCLATURE COMMITTEE

S.W. Bailey, Chairman

Ten committee members met in Strasbourg on October 30, 1989, in conjunction with the 9th International Clay Conference.

1. Informational status reports were presented by the Chairman on two recent proposals to the IMA Commission on New Minerals and Mineral Names requesting species status for two clay minerals. One is the ferrous iron end member smectite and the other is a regular 50:50 interstratification of pyrophyllite and cookeite. Decisions on the proposals are still pending.

2. The committee reconsidered the naming of trioctahedral chlorite species. It reaffirmed support for the simplified scheme of Bayliss (1975). Trioctahedral chlorite species should be named according to the dominant divalent octahedral cation present, without subdivision according to Fe³⁺ or Al(IV) contents. Approved species names are clinochlore for Mg-dominant, chamosite for Fe²⁺-dominant, pennantite for Mn²⁺-dominant, nimite for Ni-dominant, and baileychlore for Zn-dominant. Other names should be discarded, and adjectival modifiers should be added to indicate the presence of substantial amounts of other elements.

3. The committee reconsidered the naming of dioctahedral smectites. It reaffirmed its 1985 decision that dioctahedral smectite species be named according to the dominant trivalent octahedral cation present. If a divalent or monovalent octahedral cation is dominant over the trivalent cation, as is possible in a dioctahedral structure, a new species name is appropriate only if the dominant cation is unusual, e.g., Cu. If not unusual, an adjectival modifier should be used.

4. Nontronite has precedence over hydroferripyrophyllite as the species name for the Fe³⁺-dominant smectite. Differences in number of interlayer water sheets and in the layer stacking sequence upon dehydration are not considered sufficient justification for two separate species, nor is "hydro" considered a suitable prefix for a clay mineral name.

5. Note was taken of frequent misuse of structural terms defined by the committee in 1972. A *plane* of atoms at the same z height, a tetrahedral or octahedral *sheet*, a 1:1 or 2:1 *layer*, a combination of a layer and an interlayer as a *unit structure* are correct usages. Equivalent words in other languages are listed below. A *lattice* is an assemblage of points through which a regular network can be drawn. Atomic substitutions take place in a *structure* and not in a lattice.

Table *Structural terms of reference and their equivalents in different languages*

English	French	German	Russian	Spanish	Italian
plane	plan	Ebene	R	plano	plano
sheet	couche	Schicht	R	capa	strato
layer	feuillelet	Schichtpaket	R	lámina	pacchetto
interlayer	espace interfoliaire	Zwischen-schicht	R	espacio interlaminar	interstrato
unit structure	unité structurale	Struktur Einheit	R	unidad estructural	unita strutturale

DR IR JOS CENENS : THE 1989 BRADLEY AWARD WINNER

In a close race among five young scientists, each with an excellent paper, Dr ir Jos Cenens came out as the winner of the 1989 Bradley Award with his paper "Quantitative Absorption Spectroscopy of Cationic Dyes on Clays".

Jos Cenens obtained the degree of engineer in chemistry and agricultural industries at the Faculty of Agronomy of the Catholic University of Leuven in 1983. At the same institution he obtained his Ph.D. in Agronomy in 1988 with his thesis "Spectroscopy of Dye Molecules at Clay Surfaces". The Bradley Award winning paper was part of his Ph.D. work.

This work was performed in the Laboratory of Surface Chemistry under the direction of prof. R.A. Schoonheydt. The aim of the work was to study the surface properties of smectite clays in dilute aqueous suspension. This was done by spectroscopy (absorption and fluorescence) of adsorbed dye molecules. Monomer adsorption, protonation, dimerization and aggregation reactions were found to occur. The relative importance of each reaction depends on the type of clay, the particle size, the loading with dye and the type of exchangeable cation. Jos Cenens was the first to derive dimerization and trimerization constants for dyes on the surface of clays. He has also proposed a method to estimate effective surface areas of clays in aqueous suspension. The method is based on the characteristic decrease of the fluorescence intensity of proflavine with loading. All this work is in print or submitted for publication.

Dr ir Jos Cenens is currently employed in the SHELL Chemical Research Centre, Avenue J. Monnet 1, 1348 Louvain-La-Neuve, Belgium.

THE ADDRESS OF THE AIPEA PRESIDENT AT THE INAUGURAL CEREMONY OF THE 9TH INTERNATIONAL CLAY CONFERENCE, STRASBOURG.

Dear French hosts, organizers and sponsors of the 9th International Clay Conference, dear friends and colleagues, ladies and gentlemen, chers amis :

I have the privilege to greet you cordially from this place on behalf of the council of our Association. When clay science emerged from the productive family of natural sciences, shortly before the half of the twentieth century, it was not a freak of chance that the French name was given to our association: ASSOCIATION INTERNATIONALE POUR L'ETUDE DES ARGILES. It is one of many proofs that the scientific activity in France has always been strong and inspiring. The 9th International Clay Conference in Strasbourg is a natural continuity of this activity.

Clay science or argillology investigates minute particles of clay minerals and their huge accumulations from many viewpoints. The clay minerals mostly arose from the interaction between the surface lithosphere and the hydrosphere under the all-embracing action of solar energy. The thermal energy of the Earth sometimes contributes to this interaction. The interest of many scientific disciplines and diverse technologies in clay matter caused that argillology developed into a great interdisciplinary science like few others. Not only the input of the solar energy itself and chemical action of water, with the contribution of the Earth's thermal energy, along with our interests are responsible for our get-together in this beautiful, historical French town, Strasbourg, but also the great energetic input of our dear French hosts, who, under the guidance of Professor Yves Tardy and Dr. Hélène Paquet, organized this international meeting.

One of the main goals of the Association Internationale pour l'Etude des Argiles is to promote the special as well as interdisciplinary research of the scientists and experts of all continents. National and international conferences have always been the best opportunities to present and publish our research.

We have nothing better or more adequate than the international conferences for the presentation of our latest results, for an exchange of experiences on new research methods, for a discussion of new discoveries and new theories or syntheses, for strenghtening old and creating new friendships. The International Clay Conference is one of the most effective ways for advancement of science.

It is always rewarding that an international clay conference ends with a printed proceedings volume, since, "what is written counts", holds for science, too. Therefore, AIPEA supports also the editorial activities of the Council. The first International Clay Conference volume appeared shortly after 1963, the year of the 1st ICC in Oslo. Thanks to the excellent authors and the admirable effort of the editors the eight previous AIPEA international clay conferences produced already 11 conference volumes. These volumes, as well as personal contacts and experiences gained during these conferences, are a lasting inspirational source.

For all these expected achievements, I wish the 9th ICC in Strasbourg a very successful course.

Jiri Konta,
AIPEA President 1985-1989

**9th INTERNATIONAL CLAY CONFERENCE
FIELD TRIP IV-V
FAMOUS CLAY DEPOSITS OF THE PARIS BASIN
AND OF THE BORDER OF MASSIF CENTRAL AND
PYRENEES**

September 4-9th, 1989

For six days in September, 1989, from the Alsatian charm of *Strasbourg* in the extreme northeast of France, this trip took its participants south and west through an extensive cross section of modern, ancient, historic, gastronomique and oenological France. Geographically the progression was from the rolling hills near Verdun, through the continental deposits of the *Paris Basin*, up onto the *Brie Plateau* near Provins, down into the karst landscape of *Poitiers to Bergerac* and up into the massifs of the *Pyrenees* out of *Toulouse*. It is difficult to ask more of an excursion than what was provided by Medard Thiry, Norbert Trauth, J.P. Fortune, and B. Moine.

Although the classic literature sites of *Nontron* and *Montmorillon* no longer exist, if indeed they ever did to any extent, we were able to more than adequately substitute with a unique continuous series of the rare interstratified kaolinite/smectite, kaolinite and beidellite, with lake deposit palygorskite, with pistachio green nontronite, porcelain grade halloysite and lateritic irons from paleoweathered karstic landscapes, with dolomite, talc, and chlorite from a metamorphic terrain world

class talc deposit - a richness that had many of us nearly overweight in our baggage!!!

After progressing through the red Triassic and Jurassic sandstones and evaporites of the eastern *Paris Basin*, we started (after lunch at the ***Croix d'Or in *Sezanne*) the study of the continental ARGILE PLASTIQUE FORMATION of lower Eocene age. The first stop at Chalautre-La-Petite near *Provins* was at a kaolinite quarry. Beneath the Tertiary deposits, the weathered flint-bearing CHALK FORMATION contains rare mixed layer kaolinite/smectite. The ARGILES PLASTIQUE FORMATION, of this eastern area of the Paris Basin, is a lacustrine deposit of poorly ordered kaolinite with traces of mixed layer kaolinite/smectite. It is overlain by middle Eocene lacustrine limestones and pure palygorskite layers.

The farm land is so valuable in this part of the Brie Plateau that open pit excavations enjoy a very restricted life span of only 3-5 years before they revert to agriculture and economics now prohibit the former underground mines. *Provins* is a town rich not only in mining history, as we saw in an excellent historical book written by Alain Peyrefitte, maire de Provins and member of l'Academie Française, but also in the political past of France. In late afternoon we were transported back to the times of chivalry, Charlemagne, Jeanne d'Arc, the feudal domain of the comtes de Champagne, the Crusades and the red roses of Provins/Lancaster. With a knowledgeable local guide, we toured the fortifications of la Ville Haute and learned at La Tour Cesar of the battles between the French and the English for possession of this strategic Medieval fortress. In the twilight of the peaceful French countryside, warning cries from the ramparts of approaching marauders became almost real.

In the vaulted ceilinged room of the subterranean Caveau du Saint-Esprit, which has been restored by the city, we were treated to a champagne reception by the mayor. It was our privilege and delight to be present when Dr. Medard Thiry was honored that evening by the town of *Provins* with an impressive bronze medal in recognition of the excellent work he has done with the kaolinite ore deposits in the area. We understand from the mayor's representative that such recognition is not lightly given.

On Tuesday we visited two sites within the ARGILE PLASTIQUE FORMATION. In the PACEMA pit at *Angervilliers* (Essone) south of *Paris*, we saw the western part of the lacustrine deposit where weathering, due to exposure of the freshly deposited lacustrine clays on the edge of the anticlinal high, has created a ferriuginous facies.

The ARGILE PLASTIQUE FORMATION is composed up-section from turquoise smectite (*beidellite*) to ocher smectite, to purples and greys of

kaolinite/smectite, to black organics, and red *kaolinite*. This is covered with a coarse, white *kaolinite* bearing sand and capped with a pale buff *silcrete*. Building material deposits in this area so close to Paris had been overbuilt which led to a law to protect the quarries.

At *Limay*, west of Paris, on the northern bank of the Seine River, from the fluvial plain paleoenvironment deposits of the ARGILE PLASTIQUE FORMATION, we complete our collection of the *kaolinite/smectite* suite. So how did these fascinating interstratifications of *kaolinite/beidellite* form? Past identification has been erroneous and their importance and distribution is perhaps greater than previously realized.

Now out of the Paris Basin and south to *Poitiers* where a karstic landscape had developed during Tertiary time. Here we are joined by Dr. Norbert Trauth with a disappointing education for us all. When *montmorillonite* was originally discovered, analyzed and named in 1865, the sample material came from a small pocket in the karst topography from Trimouille, 15 km from Montmorillon! That small pocket, of course, no longer exists! Nor does the same type of occurrence at Nontron. Quel dommage - a very loose translation of the general consternation over this news. We console ourselves by pictures of the town signs, the most popular of which was the exit sign with a red slash through the name - appropriately - *NO MORE MONTMORILLON*. Norbert saved the situation by taking the bus over narrow, windy, restricted, tree lined roads deep into the countryside to a Limoge porcelain grade *halloysite* (and nontronite) quarry. Historically and geologically this *Sauteloup* occurrence is a "jewel".

The geologic section at the quarry is a large pocket in the karst approximately 15 metres high. It goes downward from *silcrete* duricrust through sand to a striking pistachio green seam of *nontronite* within an iron duricrust. Below this is sand sporadically colored red by iron with Al-smectite above and around the very pure porcelaine *halloysite*. What makes this "Juming Wolf" quarry even more interesting is the "cottage industry" approach. The specialists working the quarry pick and separate all by hand averaging a ton/day. Their accuracy for separating the best *halloysite* is phenomenal running 90-95% pure. As Medard explained it, there appears to be a paragenetic sequence seen in a circular pattern with a weathered iron mineral in the core grading into a nontronite which goes to an Al-smectite as iron is lost and silica added and then to a *halloysite*.

Now further into the picturesque *Languedoc* region where Cro-Magnon man prothrayed his exploits colorfully on limestone cave walls and the truffle fungus is hunted by discriminating swine. Our destination is *La Colline de Floressas* and its siderolithic weathering profile. On the

sleepy village green of *Floressas* in the warm september sun, our gastronomique guides "make a picnic" of smoked duck, ham, fromage, slads, french bread and mellow red "vin du pays". Norbert then introduced us to his 7 years of work on the *Perigord-Quercy* Tertiary paleoweatherings. This very complex siderolithic process combines climatic and tectonic variations acting upon a foundation of carbonates, argillaceous and arenaceous rocks. During late Cretaceous and early Tertiary, the area has undergone deep weathering leading to development of *kaolinite* and *fericretes*. In late Eocene and Oligocene dryer climates led to development of *calcretes* and lacustrine limestones with *palygorskite* and *sepiolite*. The exposure is striking, with deep red gullies incised into the steep limestone capped hillside (down which the less sane of us slid) of this iron encrusted, lateritic deposit.

In *Bergerac* that evening, where Cyrano pined for the lovely Roxanne, we drink its fragrant, full bodied red wine, enjoy field fresh strawberries, many varieties of vegetables and melon in the near tropical climate. Here also we saw the Crepe Myrtle which Madame Minato tells us is known as "the red flowers for 100 days".

Further south now to *Toulouse* with Dr. Fortune as our guide. The city of rose brick with the largest and very impressive Romanesque church in the west - the Basilica of St. Sernin. The French airline industry began here, the first Concorde was built in Toulouse, the Ariane rocket and the AIRBUS both were developed in this city where high tech contrasts with Middle Age monuments and we encounter the local specialty - duck.

On Friday, with a stormy sky facing us, we journey into the limestone massifs of the *Pyrenees* past the mideval town of Foix with its hilltop castle up to *Luzenac* and the world class talc deposit at 1800 metres. The open pit is immense extending for 1500 metres across the mountain. 300,000 tons are extracted annually by hand during June to October. The TRIMOUNS DEPOSIT is the second largest talc deposit in the world with a 20 million ton reserve. The deposit lies within the plane of a thrust which brings migmatites, sillimanite gneiss, calc silicates, and mica schists into contact with dolomite, sericitic schists, chlorite and graphite. Extensive tectonic and metasomatic activity has created complex structures and diverse mineralogy which includes talc, magnesium chlorite, pyrite, pyrrhotite, chalcopyrite, phlogopite, dolomite, calcite, quartz, and rarely rutile, cassiterite, apatite, rare earth phosphates and unstable tremolite. Talc is transported down the mountain to the processing plant by a 5.5 km long bucket tram. It is incredible to see at a mine this large, hand sorting and grading in the pit, as there are over 10 different qualities of talc determined this way. The talc is used in paper, plastics, paint, ceramics, cosmetics and

agriculture. Clouds in *Toulouse* unfortunately meant rain at 1800 metres. Our stay in the pit was all too short, wet and muddy (to the grief of the bus driver), but very much worth the trip.

And so on Saturday, is the long drive back to *Paris* first via *Bordeaux* and the Garonne River with happy, memories of the sun, the sleepy countryside, the wine, les argiles, the good company, the expertise of our geologic guides and their organization of a splendid trip. In those six days, 46 of us from 14 countries (ARGENTINA, BRAZIL, CANADA, CHINA, FRANCE, ISRAEL, ITALY, JAPAN, NEW ZEALAND, SPAIN, SWEDEN, SWITZERLAND, WEST GERMANY AND THE UNITED STATES) drove 3000 km, drank 145 litres of wine, tracked many kilos of mud into Claude's bus, collected at least eleven different types of clays from six localities, acquired two classic posters from Montmorillon and Nontron, went from near sea level to 1800 metres in altitude and consumed every imaginable part of a duck!
A truly memorable and educational experience.

PHOEBE L. HAUFF

Center for the Study of Earth from Space
University of Colorado, Boulder, CO, USA.

**10TH INTERNATIONAL CLAY CONFERENCE ADELAIDE,
JULY 18-23 1993**

In conjunction with Commission VII of the International Soil Science Society: Soil Mineralogy

Venue: The University of Adelaide

Already 2% of the available planning time has gone. Four years is not as far away as you think; if we are to get it right we need to act promptly. We need ideas now and assistance a little later. Following the Brisbane Conference last year we established the ACMS "Senate", or National Scientific Committee, and a Local Organizing Committee (listed below). Fortunately almost all the "Senate" was at Strasbourg, and we took the opportunity to observe how to do things well. At Brisbane the idea of a "Posters Only" conference was considered and not supported by ACMS. Those of us at Strasbourg found little reason to change that decision, and we will be proposing an even mix of verbal and poster presentation.

At present we are looking for ideas for session topics and the organizers for these, and for financial sponsorship. The strongest message we had from AIPEA (Association Internationale pour l'Etude des Argiles) was that we must keep costs down. \$100,000 in external support would go a long way toward achieving that. At this stage we would prefer to coordinate our fund-raising through the Adelaide Committee; they would welcome the names of suitable people to approach almost as much as direct offers of money. The best way to get your ideas across would be to talk to one of the "Senators" directly. That way you will find out how our thoughts are tending and be better placed to support or counter them. We already have several offers to run field trips (see below). These will cover the climatic range from humid cool (NZ in July) through arid to tropical, and show aspects of weathering, industrial clays, soils, and mining. An International Conference on Soil Micromorphology is to be held in Canberra in 1993. We hope it will be held within a week or two of the Clay Conference.

Organizing Committees for the 10th International Clay Conference:

National Scientific Committee

Dr Tony Eggleton	Chairman	Geology, ANU, ACT
Dr Rob Fitzpatrick	Secretary	CSIRO Soils, SA
Dr Reg Taylor	Treasurer	CSIRO Soils, SA
Dr Ivor Roberts		Geology, UNSW
Dr Bob Gilkes		Soil Science, UWA
Dr Ahmad Shayan		CSIRO Building etc, Vic
Dr Ian Mackinnon		EM unit, UQ
Dr Cyril Childs		DSIR Soils NZ

Local Organizing Committee:

Dr Tony Eggleton	Geology ANU	Chairman ex officio
Dr Rob Fitzpatrick	CSIRO Soils	Secretary/Chair
Dr Reg Taylor	CSIRO Soils	Treasurer
Mr Lou Barnes	Ausmintec	Industry
Dr David Chittleborough	Soils, Waite	Field trips
Dr Jock Churchman	Soils Waite	NZ Field trip
Dr John Keeling	SA Mines	Field trips
Prof Malcolm Oades	Soils, Waite	Technical Program
Dr Tony Milnes	CSIRO Soils	Field Trips Coordinator

Dr Keith Norrish	CSIRO Soils	Co-Editor, Commerce
Prof Jim Quirk	Waite	Co-editor
Dr Mark Raven	CSIRO Soils	Exhibitions
Dr Peter Self	CSIRO Soils	Posters
Ms Heather Webster	CSIRO Soils	Publicity
Dr Malcolm Wright	CSIRO Soils	Field trips

Conference Plan

Accommodation: University residences, local hotels

Registration: through Ellisservice, Adelaide Conference Managers

Social Program: to be arranged by Ellisservice

Technical program: The Australian Clay Mineral Society deferred plans for the technical program until after Strasbourg, in order to compare the merits of poster only vs 15-20 minute talks. The general outline suggested was comparable to that of earlier Conferences: four days of technical sessions, with Wednesday for an excursion. The symposium and technical session topics are under consideration.

Major Field Trips proposed: Please volunteer assistance to indicated leader. Pre- or post- Conference, 5-days:

Australia:

1. Queensland: Cairns: tropical weathering; Weipa: bauxite: Fitzpatrick.

2. N.T and S.A.: Kakadu, Ranger, arid weathering, silcrete, opal. Milnes.

New Zealand:

3. Auckland-Taupo-Rotorua -Auckland: Percival DSIR hydrothermal areas, halloysite, allophane, kaolinite

Other field trips:

4. W.A.: Perth and environs: laterite, bauxites, soils: Gilkes

5. N.S.W.: Hunter Valley: coal; clay deposits: Loughnan/Roberts

6. S.A.: Adelaide; local 2-day trip: Chittleborough, Wright, Keeling

THE 11th INTERNATIONAL CLAY CONFERENCE

By now everybody knows that the 10th ICC will take place in 1993 in Adelaide, Australia. Those who think about organizing the 11th ICC in 1997, must take into account the following two paragraphs of the AIPEA statutes.

(1) International conferences will be promoted by AIPEA at approximately 4-yearly intervals. Each such conference shall be in a country different from those in which the preceding two were held.

(2) Firm offers to host the 11th ICC must be made in writing to the secretary-general at least four weeks before commencement of the 10th ICC.

The host countries of the 9th and 10th ICC were respectively France and Australia. Those who are interested in submitting a proposal, should contact the secretary-general before doing so. This call to host the 11th ICC will be repeated in the 1991, 1992 and 1993 newsletters.

7th EUROCLAY

The 7th meeting of the European Clay Groups will be held in DRESDEN, German Democratic Republic from Aug. 26th to 30th in 1991.

Chairman: Prof Dr Manfred Störr, Ernst-Moritz-Arndt-University
Department of Geological Sciences
Friedrich-Ludwig-Jahn-Str. 17 a
Greifswald
DDR-2200

SCOPE OF THE CONFERENCE

7th EUROCLAY will present a 3 day scientific programme with oral and poster sessions on all topics related to clay science, such as

- crystallography and crystal chemistry
- geochemistry, geology, petrology, soil science, and environmental research
- chemistry and physics of clay mineral surfaces
- colloidal properties
- processing and industrial utilization
- history of clay mineral research and utilization

Supplementary round table talks will be held concerning

- kaolins - genesis, mineralogy, and utilization
- clay minerals and environmental research
- geomicrobiological technologies for clay mineral processing
- problems of phase analysis (illustrated on the basis of the GDR reference samples)

SUBMISSION OF PAPERS

Attendees intending to present a paper in oral or poster presentation are requested to submit an extended abstract in English (4 pages maximum, including line drawings) no later than February 15th 1991.

The time table of EUROCLAY 91 has room only for about 80 oral presentations of 20 minutes each (2 parallel sessions; 5 minutes for discussion included), whereas there will be facilities for the presentation of more than 200 posters. Therefore participants are asked to check seriously if they can present their papers in the poster sessions and to indicate this. The scientific committee, however, will have the right to decide how the papers are to be presented.

FIELD TRIPS

6 field trips to the main areas with outcrops of rocks containing clay minerals in the southern G.D.R. will be offered on the last two days of EUROCLAY '91 (N° 1-3 on Aug. 29th, N° 4-6 on Aug. 30th). The topics are:

- 1 Residual and Sedimentary Rocks of the Tertiary in Lusatia (granodiorite kaolins and parent rocks at open cast mines of Caminau and Wiesa, kaolinitic clays at Wetrow, basaltic tuffs and weathering products as well as their influence on a land slide at a lignite mine at Berzdorf; kaolin processing plant at Caminau).
- 2 Meißen - the Oldest Kaolin Mining District of Europe (pitchstone kaolin of Seilitz, ball clays at Löthain, granite kaolin at Ockrilla, outcrops of the related parent rocks at Garsebach; short stops at Meißen and Moritzburg).
- 3 Rocks and Geological History of the Cretaceous South of Dresden (Cretaceous sandstone marls, the pre-Cenomanian weathering crust at the "Götzenbüschel" and the sandstone forming environments near the "Bastei" cliffs and the castle of Königsstein; brick clays and conglomerates at Oelsa and Höckendorf showing the Lusatian fault).
- 4 Porphyry Kaolins of North Western Saxony and their Utilization (different types of porphyry kaolins at three open cast mines at Kemmlitz, Tertiary quartzites at Glossen, Ni-hydrosilicates at Callenberg)
- 5 Kaolin Deposits in Halle County (porphyry kaolin at Salzmünde, several kaolins of the Buntsandstein source rock, such as those at the lignite mine at Amsdorf and at Spergau; high bitumen lignites at Amsdorf or the Geiseltal valley)
- 6 The Thuringian Basin - Clays of the Mesozoic (sedimentary petrology of Triassic sequences in the Buntsandstein, Muschelkalk,

and Keuper, feldspar sands near Kahla and Triassic brick clays; fine china factory at Kahla, short stop at Jena).
All trips include special explanations of soil forming processes.

MARTIN-VIVALDI-AWARD

The European Clay Groups' Association will award the best scientific research work presented by a young professional at EUROCLAY '91 with the MARTIN-VIVALDI-AWARD.

Furthermore the Organizing Committee will have the pleasure to pay all fees and accommodation for two additional participants. Further information will be included in the 2nd circular.

DEADLINES

- Preregistration form: February 15th 1990
- submission of abstracts: February 15th 1991

REQUESTS

If you are interested in attending EUROCLAY '91, please send all questions you have to the given address. Please send your proposals for papers to:

EUROCLAY - 91
Ernst-Moritz-Arndt-Universität Greifswald
Sektion Geologische Wissenschaften
Friedrich-Ludwig-Jahn-Str. 17 a
Greifswald
DDR-2200

IN MEMORIAM RALPH E. GRIM

The world of clay mineralogy lost one of its founding fathers when professor Ralph E. Grim died in Urbana, Illinois, on the evening of August 19, 1989. His six decades of work in the field leaves a wonderful legacy. He defined the "clay mineral concept", which helped to place the study of clays on an independent footing. By seeking the relationship between the structure and chemistry of clays with their physical properties, he greatly enhanced their status as valued industrial minerals.

Grim was born in Reading, Pennsylvania, on February 25, 1902. He received a bachelor's degree from Yale University and a doctorate in geology from the University of Iowa. From 1926 to 1930, he was assistant professor at the University of Mississippi as well as assistant state geologist. During his study of the bentonites of Mississippi, he began his interest in clays. In 1931, Grim joined the Illinois Geological Survey.

The years at the Illinois Survey proved very productive, and included pioneering work on diagenesis, differential thermal analysis, clay-water properties and a host of other subjects. Grim began the great collaboration with the eminent crystallographer William F. Bradley at this time. One of many results of this collaboration was the description and definition of illite.

In 1948, Grim joined the geology faculty of the University of Illinois. In his career there, he supervised forty graduate students. He imparted his vast knowledge, and his love for the subject. He wrote his well-known book *Clay Mineralogy*, which was the standard English-language text for years. This book had enormous impact for it served as an introduction to clays for workers in a vast number of disciplines.

Grim traveled extensively throughout the world, and undoubtedly visited more clay deposits and occurrences than anyone else. This first-hand acquaintance proved valuable in expanding the industrial use of clays. He enthusiastically proselytized the application of clays all his career. In fact, he had just returned from a consulting trip the day before his death.

Many honors came to him, from not only the United States, but also from Great Britain, India, France and Brazil. He was the first Distinguished Member of the Clay Minerals Society, an honorary member of the Mineralogical Society of Great Britain, and a Roebling medalist of the Mineralogical Society of America. He served as the first chairman of the U.S. National Research Council Committee on Clay Minerals. In 1984, he received an honorary doctorate from the University of Illinois.

Grim shared his good fortune with others. His philanthropies ranged from endowment of a chair in the Illinois geology department to the magnificent pipe organ for the First United Methodist Church in Champaign.

He is survived by his wife and several nephews. Although he had no children of his own, we all in a way are his surviving children.

William F. Moll, President, Clay Minerals Society, 1989.

IN MEMORIAM PROFESSOR F.V. CHUKHROV

Those who took part in International and European meetings of AIPEA, MMA and other geological organisations between 1957 and 1985 must remember the remarkable personality of Academician Prof. F.V. Chukhrov (1908-1988), a prominent Soviet mineralogist, director of the well-known Institute of Geology and Ore Mineralogy (IGEM, USSR Acad. Sci.). At such meetings Prof. Chukhrov attracted general attention both by his stature and by his inherent dignity, modesty and benevolence. He had numerous friends among scientists from different countries who greatly appreciated his scientific intellect, erudition and keenness of observation.

F.V. Chukhrov was born on July 5, 1908 in a small town of Yegoryevsk not far from Moscow, to a worker's family. As a young boy he started working in a textile factory. His inquiring mind and yearning for education, however, inspired him to enter the Moscow University, department of soils and geology, where he studied from 1932 till 1936. Significantly, his first monograph was published immediately on his graduation from the University. The career of F.V. Chukhrov developed successfully in accordance with his scientific achievements. Four years later he obtained his Ph. D. and in 1946, he became a D.Sc. In 1953 Professor Chukhrov was elected Corresponding Member of the USSR Academy of Sciences, and in 1970 he became Academician.

F.V. Chukhrov's scientific interests were extremely diverse. He paid much attention to processes of mineral formation in the surface zones of the Earth, studying in great detail colloid formation, hypergenesis zones of ore deposits, mineralogy of rare-metal, manganese and ferruginous ores, etc.. F.V. Chukhrov is well known for his works on the crystal-chemistry of a number of new or understudied minerals, on hypergenic migration of elements (Mo, W, etc.), on the role of convergence in mineral formation etc.. He made a valuable contribution to the typomorphism theory, as well as to the study of homogeneity/heterogeneity of minerals and mineral associations. In his research work, finely dispersed, poorly crystallized formations such as clays, oxides and hydroxides of Fe, Mn and other elements were of special interest to F.V. Chukhrov. He studied miscellaneous aspects in the field, such as structure, crystal chemistry, genesis of clay minerals, evaluation of their technological properties, prediction and prospection of ore and non-ore deposits.

F.V. Chukhrov was one of the first in the USSR to appreciate the importance of the physical methods for studying finely-dispersed, poorly crystallized minerals and to introduce, in addition to X-ray diffraction,

the methods of electron diffraction to the mineralogical practice. Owing to his efforts, the laboratory of high-voltage electron diffraction was organized and Prof. B.B. Zvyagin was invited from Leningrad to head it. Their creative collaboration in studying clay minerals and iron oxyhydroxides proved to be extremely fruitful, resulting in a number of generally recognized works. Among these, one should mention detailed structure studies of complex and then understudied minerals such as halloysite; (Zn, Al)-analogues of berthierine represented by a mixture of trigonal and monoclinic polytypes; cupreous chrysocolla; 2M-ferripyrophyllite, etc..

Another important stage in F.V. Chukhrov's scientific activities was associated with studying the structure and the formation mechanism and conditions of hypergenic iron oxyhydroxides. The main attention was again given to the most complex, poorly crystallized compounds, such as ferroxihite and ferrihydrite. Analysis of natural observations and experimental data allowed F.V. Chukhrov and his colleagues to evaluate the role of biogenic and abiogenic factors in the formation of minerals of this group. The results of this work are given in the book of F.V. Chukhrov, B.B. Zvyagin, A.I. Gorshkov and others "Hypergenic iron oxides".

In the last decade F.V. Chukhrov was studying manganese oxyhydroxides formed under continental hypergenesis conditions, in lake, marine and oceanic environments. The results of this work, well known to the specialists in the field, are presented in the book of F.V. Chukhrov, A.I. Gorshkov and V.A. Drits "Hypergenic manganese oxides" published late in 1989.

F.V. Chukhrov was elected President of AIPEA, Honorable Member of the French and the British Mineralogical Societies and member of the Hungarian geological society: evidences of the high appraisal of his scientific achievements.

V.A. Drits

NATIONAL CLAY GROUPS

AUSTRALIAN CLAY MINERALS SOCIETY

In the 13 months since the Brisbane Conference, the Canberra-based Committee (Council, if the draft Rules is to be believed, but see below) has confirmed Ballarat in February 1991 for the next biennial conference. We are also investigating incorporating the Society in the ACT. The Brisbane Conference left the Society with enough funds to

seed the 10th International Clay Conference (to be held in Adelaide in 1993, also see below), to allow the Scientific Committee of the ICC to meet a couple of times in the next 4 years, as well as enough to establish the Ballarat Conference.

Council

President	Dr Tony Eggleton	Geology Department ANU, GPO Box 4 Canberra, ACT, 2601
Secretary	Ms Julie Kamprad	BMR, GPO Box 378 Canberra, ACT, 2601
Treasurer	Mr Chris Foudoulis	Geology Department ANU, GPO Box 4 Canberra, ACT, 2601
Committee	Dr Allan Chivas	RSES, ANU GPO Box 4 Canberra, ACT, 2601
	Dr Roy Towner	BMR, GPO Box 378 Canberra, ACT, 2601
	Dr Ross Ramsay (by invitation)	Geology Department Ballarat CAE

Calendar

10th Australian Geological Convention	Hobart	5-9 Feb. 1990
AusIMM Industrial Minerals Conference	Rotorua	18-21 March 1990
International Industrial Minerals Congress	Sydney	25-28 March 1990
14th International Congress on Soil Science	Kyoto	12-18 Aug. 1990
7th International Conference on Geochronology, Cosmochronology and Isotope Geology	Canberra	24-29 Sept. 1990
12th biennial ACMS conference	Ballarat	10-15 Feb. 1991
European Clay Conference	Dresden	August 1991
10th International Clay Conference	Adelaide	18-25 July 1993

The 12th Biennial ACMS Conference Ballarat - February 1991

Venue: Ballarat College of Advanced Education

Schedule:

- Sunday 10 Feb - Reistration, evening reception.
- Monday 11 Feb - Registration, Papers.
- Tuesday 12 Feb - Field excursion, Conference dinner.
- Wednesday 13 Feb - Papers.
- Thursday 14 Feb - Field Excursion.
- Friday 15 Feb - Field Excursion.

Accommodation is available at college residences, otherwise local hotels and motels.

The field excursion itinerary is under consideration - and there is a lot to see! Ballarat is renowned for many things, some of which are listed below!

1. There are numerous clay deposits in the area, many originally identified as a result of gold diggings in the last century.
2. Ceramics and pottery industry. From large to small scale plant using modern and traditional techniques. There are large scale clay mining and processing plants, brickworks, clay pits and ceramic tile plants.
3. Its history. First the discovery of gold which led to the Eureka Stockade and is today depicted at Sovereign Hill. Ballarat's history is also reflected in many of its fine buildings and monuments.
4. Arts, Crafts and Antiques.
5. Scenic Beauty.

As you can see, Ballarat has much to offer a Conference like ours. So please start thinking about presentations for papers and posters and remember to keep the second week in February 1991 free for ACMS.

CZECHOSLOVAKIA

Twelve contributions were presented in the scientific program of three meetings of the Czechoslovak Clay Group in 1989, in Prague. Two lectures were invited (K. Melka: Classification of chlorites, Z. Weiss: Polytypes and crystallochemistry of phyllosilicates), ten lectures covered a wide range of topics.

The Autumn meeting of December 13 was devoted to the 9th International Clay Conference in Strasbourg, where the Czechoslovak delegation, of twenty-one members, was one of the biggest.

At the Autumn meeting Dr. L. Cichovsky, was elected as President of the Czechoslovak Clay Group for 1990. The 11th Conference of Clay Mineralogy and Petrology will be held in South Bohemian capital České Budejovice (150 km south of Prague) in August 27 - 31, 1990. The conference will cover all aspects of clay research and related subjects. English is recommended not only for Abstracts and Proceedings but also for oral and poster presentation. For further details contact: Dr. J. Sindelar, Geindustria, Pristavni 24, 170 00 Prague, Czechoslovakia.

J. Sindelar

CHINA

The Second World Congress on Non-Metallic Minerals was held in Beijing (Peking), on October 17-21, 1989. About 260 participants attended the Congress. Among them, 116 were foreign participants from 40 countries. Prof. F. Veniale, Prof. M. Störr, Prof. H. Minato, Prof. M. Kuzvart, Dr. N.A. Shaikh and other famous scholars on clay sciences took part in this Congress. More than 140 scientific papers were presented orally, among them 34 papers on kaolin, bentonite, sepiolite, illite and pottery clay deposits, geology, mineralogy, geochemistry, clay processing and utilization.

A national symposium on analysis, processing and utilization of non-metallic minerals was held in Wenjiang county, Sichuan province, on 7-11 November 1989. About 100 participants from different provinces and research institutes attended the meeting. Papers on bentonite and kaolin were presented.

The Third National Clay Symposium will be held in September or October 1990, in the Shandong province. It will contain three Scientific Sessions: 1) Clay mineralogy, 2) Clay mineral deposits, 3) Achievements of applied clay sciences in recent years.

Zhi Zheng

DTTG

From 10. - 12.5. 1989 the annual meeting took place in the castle of Rauischholzhausen near Giessen.

The general subject was "Identification and characterisation of clay minerals". 8 papers have been presented within this subject followed by intensive discussions. The papers will be published in German language as a special issue of the publications of the University of Giessen.

During the DTTG-meeting K. Jasmund presented a plenary lecture "From the clay colloids to the clay minerals".

On this occasion the first "Karl-Jasmund-Preis" - sponsored by the DTTG - was presented to Mrs. R. Degen.

Prof. Dr. F.J. Eckhardt

FRANCE

WORKSHOP

The "Groupe Français des Argiles", together with the "Société Française de Minéralogie et Cristallographie", has held a workshop on "Clay materials: structures, properties and applications" from march 6

to 10, 1988 at Aussois (Savoie). The workshop organized by Alain Decarreau was a great success, 70 people registered, and in spite of the location in a ski station of the Alps nobody missed the lectures. Two working sessions (9-12 am and 4-7 pm) each day enabled skiing from noon to 4 pm. The main topics of the workshop were:

- internal organization of the layers by Besson, Decarreau, Manceau, Sanz and Suquet;
- layer associations and particles by Amouric, Besson, Robert and Suquet;
- physico-chemical properties of the clays by Cases and Van Damme;
- water-clay relations by Prost and Tessier;
- organization of the particles in materials (soils, sediments, ...) by Prost and Tessier;
- chemical and mineralogical heterogeneities in clay materials by Amouric, Meunier and Yvon;
- applications for industries, soils and sediments by Badaut-Trauth, Bergaya, Herbillon, Decarreau, Robert and Yvon.

The papers of the lectures will be published in french by the "Soc. Française de Mineralogie et Cristallographie" and an english edition is in preparation.

MEETINGS

The spring meeting of the "Groupe" was held on april 20 in Paris. The following papers were presented.

- Preparation and use of intercalated clays and zeolites for catalysis: D. Tichit.
- Mixed Al-Fe pillared clays: H. Hassoun, F. Bergaya, L. Gatineau, R. Setton and J. Barrault.
- Clays and Fe oxihydroxides as enzyme supports: nature of the interactions and results of catalytic activity: H. Quiquampoix.
- Mineralogical and cristallochemical studies of the precursors of goethite and hematite in the weathering profiles on itabirites (Minas Gerais, Brazil): A. Decarreau and E. Ramanaidou.
- Catalytic activity of montmorillonite in several biochemical reactions: A. Naidja and B. Siffert.
- Water molecular dynamics in presence of montmorillonite. Experimental study of deuterium NMR and modelization: A. Delville, J. Grandjean and P. Laszlo.
- Neoformed dickite in the versicolor clays of the Apenin (Italy): F. Veniale.
- Relations between Al-Fe substitution and disorder in the goethite structure: J.L. Hazemann.

The traditional autumn meeting was replaced by the AIPEA International Conference at Strasbourg. For France, a total of 107 researchers and 31 students registered at the Conference.

1990 PROGRAMME

The spring meeting will be held on march 22, 1990 at Mulhouse, to honour past-president Prof. R. Wey who will retire shortly. The theme of the meeting will be: Synthesis and approach of the natural conditions of clay minerals and zeolites formation.

The autumn meeting will be held during the "Days of Mineralogy" organized by the "Soc. Française de Minéralogie et Cristallographie", 5-7 september 1990 at Rennes. The topic of the meeting will be: Al and Fe in sheet silicates and associated minerals.

Médard Thiry

GREAT BRITAIN AND IRELAND

1. Spring 1989

The Spring 1989 meeting was held at the University of Birmingham on March 21-22, 1989, on the theme of "Organic and Inorganic Interactions of Clay Minerals". The meeting had Keynote lectures by Professor Max. M. Mortland of Michigan State University, U.S.A. and by Dr. J.W. Goodwin (University of Bristol). There were a total of 12 contributed papers. The meeting was attended by approximately 50 people.

2. Winter 1989

The group ran a half-day symposium on the theme of "Thermodynamics and Stability of Clay Minerals" as a part of the Winter conference of the Mineralogical Society of London, held at University College, London from December 18-20. This contained 6 papers.

At the Annual General Meeting following the Winter Meeting, the following were elected to serve on the committee for 1990:

Chairman	Dr D.J. Morgan
Secretary	Dr P.L. Hall
Treasurer	Dr T.J. Primmer
Principal Editor	Dr D.C. Bain

Committee Members

Dr C. Breen
Dr D.H. Doff
Dr J. Gronow
Mr R.J. Merriman
Professor D.A. Spears
Dr I. Wilson

3. Spring 1990

The Spring meeting of the Group will be held on Friday 30th March in the rooms of the Royal Entomological Society, 41 Queens Gate, London SW7 5HR. There will be no specific theme, but the programme will consist of oral presentations of some of the poster presentations given by British delegates at the recent International Clay Conference in Strasbourg.

4. Summer 1990

A joint meeting of the Clay Minerals Group and the Metamorphic Studies Group of the Mineralogical Society will be held at Manchester University, July 5-8 1990. The theme of the meeting will be "Phyllosilicates as Indicators of Very Low Grade Metamorphism and Diagenesis", specific topics including: illite crystallinity and fundamental particles; mafic phyllosilicate paragenesis; correlating grade and cleavage development; and radiometric dating of phyllosilicates. The technical sessions will be followed by field trips to the Lake District and the Southern Uplands and Midland Valley, Scotland.

5. Autumn 1990

A joint meeting of the Clay Minerals Group, the Geochemistry Group and the Petroleum Studies Group of the Geological Society will be held at Burlington House, Piccadilly, London from September 16-18, 1990. The theme of the meeting will be "Geochemistry of Clay-Pore Fluid Interactions".

For further details concerning either of these meetings, contact Dr. P.L. Hall, Hon. Secretary, British Clay Minerals Group, P.O. Box 153, Cambridge CB3 0HG, United Kingdom.

P.L. Hall

HUNGARY

As it was announced in the 1988 edition of the AIPEA Newsletter, in December 1988 a one-day meeting was held in Budapest on *Industrial Clay Deposits*.

In 1989 the following lectures were held in Budapest in the monthly sessions of the Clay Minerals Group of the Hungarian Geological Society and the Soil Mineralogy Group of the Hungarian Society for Soil Science:

February:

- Tóth M.: "The effect of matrix on the transformation products of heated ceramic materials".

March:

- Nagy B., Varga Gy.: "Connection between kalittrachyte and illite formation in the territory of Mátra Mts.: hydrothermal mineralization".

May:

- Csillag G.: "Kaolin prospection in the Keszthely Mts., central Transdanubia"

- Nemezc E.: "Variation of the clay mineral content of soils in the fine grain size fraction"

June:

- Schomburg J., GDR: "On industrial application of bentonites"

October:

- Stefanovits P., Dombóvari L., Kónya K.: "Modification of clay mineral composition during soil formation in soils developed on various rocks"

- Csáky-Micheli E., Stefanovits P.: "Reflectance of artificial clay-humus complexes"

November:

- Bárdossy Gy.: "Report of the Congress of AIPEA held in Strasbourg, 1989".

In April 1989 the 10th Regional Meeting of the International Association of Sedimentologists /IAS/ was held in Budapest. Several papers on the role of clay minerals in sedimentary processes were presented.

On October 18, in a comission of the Hungarian Academy of Sciences, a lecture was given by I. Viczián on "The effect of paleogeographic relations on the repartition of clay minerals in Neogene sequences of Hungary".

On November 27 the title Doctor of Sciences was given by the Hungarian Academy of Sciences to the brothers F. Paulik and J. Paulik for their life-long activity in the development of thermal analysis. Their

apparatus called "Derivatograph" is an important tool in the study of clays.

István Viczián

THE ISRAEL SOCIETY OF CLAY RESEARCH

The Annual Meeting of the Society was convened on October 25, 1989 at the Rehovot campus of the Faculty of Agriculture, the Hebrew University. The following papers were presented:

1. F. Zwetkov and U. Mingelgrin. The use of HPLC columns for the study of the interactions between clays and organic molecules.
2. T. Stern, B. Rubin and L. Margulies. Prolongation of the biological activity of two herbicides by adsorption on clays.
3. Z. Chernia, D. Gil and S. Yariv. The effect of dialysis on the chromasity of crystal violet adsorbed on montmorillonite.
4. I. Miloslavski, L. Heller-Kallai and Z. Aizenshtat. Reactions of clay condensates with n-alkenes: Comparison between clay volatiles and clay condensates.
5. A. Sandler. Localized chemical analyses of palygorskite and smectite.
6. A. Singer and A. Banin. Palagonite: Rock, mineral or alteration crust?
7. A. Sandler, M. Raab and Y. Nathan. Diagenesis of clays in a core from the Zemach-1 drill hole in the Jordan Rift.
8. Z. Minster, A. Padan and Y. Nathan. Clays in oil shales in Israel.
9. F.J. Longstaff and A. Ayalon. Hydrogen-isotope studies of clastic diagnosis in Cretaceous rocks from Alberta, Canada.
10. L. Zevin. Stacking faults in feldspars.
11. R. Keren. The effect of chemical factors on the hydraulic properties of a porous body containing clay.

An official meeting of the Society has elected the following new officers to the Executive Committee for the period of 1990-1992: U. Mingelgrin - Chairman; S. Shoval - Secretary-Treasurer; E. Ben-Dor - Member.

A. Banin

JAPAN

1988 A. Annual Meeting

The 32nd general annual meeting of the Clay Society of Japan (1988) was held from October 3 to 6 at the Institute of Scientific and Industrial Research, Osaka University at Osaka.

(1) Special Lecture:

- Kita, D.(President): "The utilization of bentonite in civil engineering"
- Cooms, D.S. (Otago Univ., N.Z.): Invited lecture; "Study on zeolite"
- Ikeya, M. (Osaka Univ.): "ESR dating, geological assessment and microscopic imaging"
- Yuasa, S. (Osaka Univ.): "Polymerization of hydrogen cyanide and production of amino acids and nucleic acid bases in the presence of clay minerals-in relation to clay and the origin of life"

(2) Symposium: "The present state and prospect of clay science" Sato, M., Inoue, K., Yamanaka, S., Shibasaki, Y., Aoyagi, K., Suzuki, K. and Kubo, H.

(3) Oral Session: 57 papers

(4) Excursion: The man-made island of The Kansai New Airport and the borrow pit at near Osaka.

B. Committee

The following executive council for the year 1989 was elected at the Annual General Meeting:

- President: Honda S. (Akita Univ.)
- President elect: Yoshinaga, N. (Ehime Univ.)
- Vice-President: Sato M. (Gumma Univ.)
- General Secretary: Tatematsu H. (Techn. Inst. JR)
- Treasurer: Nishiyama T. (Toyo Univ.)
- Editor (Nendo Kagaku): Yoshimura T. (Niigata Univ.)
- Editor (Clay Science): Sato M. (Gumma Univ.)
- Council Members:

Inoue, A., Iwasaki, T., Uno, Y., Urabe, K., Otsuka, N., Kazama, T., Karube, L., Kimbara, K., Kubo, H., Kuroda, K., Kohyama, N., Sakamoto, T., Sato, M., Suzuki, K., Tateyama, H., Tsunashima, A., Tomura, S., Tomita, K., Hayashi, T., Higashi S., Fukushima, Y., Matsuda, T., Yamanaka, S., Yoshida, T., Wada, S., Watanabe, T.

C. Publication

The following issues were published: Nendo Kagaku (Journal of the Clay Society of the Clay Society of Japan); Vol. 27, no. 4; vol. 28., no. 1, 2.

Clay Science: Vol. 7, no. 1,2.

1989 A. Annual Meeting

The 33rd general annual meeting of the Clay Society of Japan(1989) was held from October 1 to 3 at Akita University, Akita Prefecture, Japan.

(1) Special Lectures :

- Honda, S. (President): "Research and development of clayey resources"
- Sato, A. (Akita Prefectural College of Agriculture): "Agriculture and soil properties in Hachiro-Gata border"
- Iwano, K. (Akita Prefectural Institute of Brewing): "Characteristics and utilization of biotechnology for Sake brewing in Akita Prefecture"

(2) Symposium : "The frontier problems in clay science" Watanabe, T., Nakazawa, H., Wada, S., Hukushima, Y. and Urabe, K..

(3) Oral Session : 62 papers

(4) Excursion : Nara-Yaki (pottery) at Kakunodate near Akita City.

B. Committee

The executive and council members for the year 1990 were elected at the Annual General Meeting :

- President : Yoshinaga, N. (Ehime Univ.)
- Vice-President : Hayashi, H. (Akita Univ.)
Yoshida, T. (LION Co. Ltd.)
- General Secretary : Nishiyama T. (Toyo Univ.)
- Treasurer : Kohyama, N. (National Inst. of Ind. Health)
- Editor (Nendo Kagaku): Yoshimura T. (Niigata Univ.)
- Editor (Clay Science): Sato M. (Gumma Univ)
- Council Members :

Inoue, A., Iwasaki, T., Uno, Y., Urabe, K., Otsuka, N., Kazama, T., Karube, L., Kimbara, K., Kubo, H., Kuroda, K., Kohyama, N., Sakamoto, T., Sato, M., Suzuki, K., Tateyama, H., Tsunashima, A., Tomura, S., Tomita, K., Hayashi, T., Higashi S., Fukushima, Y., Matsuda, T., Yamanaka, S., Yoshida, T., Wada, S., Watanabe, T.,

C. Publication

The following issues were published: Nendo Kagaku (Journal of the Clay Society of the Clay Society of Japan); Vol. 28, no. 3,4; vol 29, no. 1,2.

Clay Science: Vol. 7, no. 3, 4.

D. The IGC (International Geological Congress) will be held on August 24-September 3, 1992, in Kyoto International Conference Hall, Japan.

We are preparing some sessions related to clay science.

Special Symposia A; Origin of life and evolution of the biosphere Interdisciplinary Session

1. Geological environments for human health and activities
2. The role of clays on origin of life

Disciplinary Session; Clay Geosciences

1. Formation of clay minerals during diagenesis, weathering, and hydrothermal alteration
2. New characterization of clay and fine particles constituting the earth crust
3. Sedimentary and chemical characteristics of silicate minerals in marine sediments

The workshop; "Clay deposit and Utilization"

We hope that many clay researchers will attend this conference. You will get more information from Prof. Sato, M (Gumma Univ.) or Prof. Watanabe, T. (Joetsu Univ. of Education). The 1st Circular of IGC will be prepared at the end of 1989.

T. Watanabe

CLAY STUDIES GROUP OF KOREA

The meeting of the Clay Studies Group of Korea took place jointly with the Annual Meeting of the Mineralogical Society of Korea on 27 May 1989. The papers delivered at the meeting were:

- Noh, J.H., "Thermochemical study of the minerals of heulandite group from Yeongil"
- Kim, S.J., "Electron microscopic (SEM,TEM) study on the formation of mordenite from smectite in the Tertiary tuffaceous sediments"
- Lee, D.J. and Lee, S.R., "Mineralogy of china clay and pyrophyllite from Gyeongsang Province"
- Cho, I.K. and Kim, S.J., "Zeolite and bentonite from Tertiary pyroclastic rocks in Gampo, Weolseong-Gun"

- Khan, A.M., Kim, S.J. and Lee, D.J., "Supergene alteration of amphibole in Kayasan kaolin deposit: Mineralogical and morphological studies"
- Kim, Y.K. and Kim, S.J., "Phyllosilicate minerals in pyrophyllite deposits in Yangsan area"
- Kwak, W.J. and Kim, S.J., "Mineralogy of zeolites from the Tertiary sediments in Yangbuk area of Weolseong-gun"
- Hwang, J.Y. and Park, S.W., "Occurrence of zeolites and bentonites in the Donghae mine, Yeongil-gun".

Soo Jin Kim

NORDIC SOCIETY FOR CLAY RESEARCH

The board during 1989 has been:

Chairman: Professor Per Jörgensen, The Norwegian Agricultural University

Secretary: Dr. Knut Pederstad, Norsk Hydro a.s.

Treasurer: Dr. Per - Arne Melkerud, The Swedish Agricultural University.

This fall meeting was arranged in Uppsala, at the Swedish Agricultural University. The organization of the meeting was done by Per-Arne Melkerud and Anne-Marie Brusewitz. The following lectures were presented:

- J. Srodon: The validity of K-saturation test for the studies of expandable clays.
- J. Srodon: XRD, TEM and HRTEM measurements of expandability of illite/smectite and genetic implications of these data.
- P. Aagaard, J. Jahren & P.K. Egeberg: Thermodynamic stability of clay minerals with relevance to the diagenetic regime.
- L. Wensaas: Compositional variations within some authigenic minerals from a Lower Tertiary to Upper Jurassic mudrock sequence, Northern North Sea.
- J. Jahren: TEM/AEM of illites and chlorites from offshore Norway.
- P.M. Melkerud: The mineral bag technique, a procedure for soil studies.
- R. Stevens: Clay mineralogy of soil samples from Västergötland, SW Sweden.
- V. Ernsten: Reduction of nitrate in clays.
- N. Gjeldsvik: A new standard clay form Denmark.

K. Pederstad

SOCIEDAD ESPANOLA DE ARCILLAS

The composition of the New Council was approved by the General Assembly, as follows:

President: Prof. E. Galan

Past-President: Prof. J.A. Rausel

Vice-President: Prof. F. López Aguayo

Secretary: Prof. M. Ortega

Treasurer: Dr. A. Justo

Members:

Dr. E. Ruiz Hitsky

Dr. J. Soriano Carrillo

Dr. J.L. Martin de Vidales

Dr. I. González Díez

Dr. C. Serna Pereda

Dr. M. Rodas González

Dr. M.A. Vicente Hernández

Dr. F. Huertas García

Dr. J.M. Serratosa Márquez

The annual meeting of the group was held in Aveiro (Portugal), March 29-31, 1989, organized by Professor Celso Gomes, head of Geosciences Department, University of Aveiro.

The principal aim of this meeting was to encourage Portuguese clay scientists to constitute the Portuguese Clay Society.

About 200 scientists (half Portuguese and half Spanish) participated at the Conference.

Four Plenary Lectures were given by:

- Maria Ondina Figueredo: "Polytypism and structure modeling of layer silicates"
- Ewa. T. Stepkowska: "Physico-Chemistry of Geotechnical behaviours of cohesive soils".
- Eduardo Ruiz Hitsky: "Intracrystalline organic reactions"
- Maria Amalia Sequeira Brage: "Granitic saprolites ("Arenes") from Northwest Portugal. Place of arenization among the great weathering systems".

About 50 papers were presented orally covering the following topics: Geology and Geochemistry, Surface Chemistry, Applications, Crystal Chemistry and Structure.

The conference included a rich social programme. An excursion was organized to Coimbra. Visits were paid to the Coimbra University, one of the most ancient in Europe. The closing dinner took place in a very friendly atmosphere.

55 Spanish scientists participated in the 9th International Clay Conference held in Strasbourg, France. 34 papers were presented covering the different topics of the meeting.

Martin Vivaldi Award

The Spanish Clay Society decided to institute an award to encourage young scientists in memoriam of Prof. J.L. Martin Vivaldi, one of the most prominent Spanish clay scientists. The award consisted of a certificate together with 100.000 pesetas and an accessit consisting of a certificate and 25.000 pesetas.

The award was shared by Drs. M. Forteza and E. Morillo. The accessit was received by Dr. I. Palomo.

J.L. Perez Rodriguez

USSR

In July 1989 we had a Conference on X-ray studies of mineral raw materials in Miass, Ural, where different aspects of the Clay structural and genetic mineralogy have been considered. By the end of this year Nauka-Press will publish the book of F.V. Chukhrov, A.I. Gorshkov and V.A. Drits "Hypergene manganese oxides".

The European Crystallographic meeting was held in Moscow (August 20-29) with papers on X-ray and electron diffraction studies of clay mineral structures and polytypes.

B.B. Zvyagin

ANNOUNCEMENTS

1. International Geologic Correlation Project 264

THE CENTER FOR THE STUDY OF EARTH FROM SPACE at the University of Colorado in cooperation with the UNESCO supported INTERNATIONAL GEOLOGIC CORRELATION PROJECT 264 ON SPECTRAL PROPERTIES is compiling a data base focusing on the spectral and physical properties of minerals, rocks, soils and vegetation commonly encountered in remote sensing applications.

The International Union of Geological Sciences has expressed an interest in publishing the hard copy version of this data base. A digital format will also be available.

The data base will contain commonly utilized analytical data including visible and near infrared spectra, x-ray diffraction spectra, energy dispersive and microprobe chemical data, scanning electron photomicrographs, bibliographic and descriptive information.

Since clay minerals are some of the most important mineral species observed by remote sensing scanners on the surface of the earth, it is our intention to make the data base as comprehensive as possible in the treatment of clays. Since this data base will be available through UNESCO and the IUGS to international reflectance spectroscopists, we also wish to make it representative of the entire earth.

To that end, we need your help in the acquisition of reference samples of clays, iron oxides, zeolites, carbonates, evaporites and low temperature silicates. A gram is about the smallest useful sample size; two grams would be better. Hand specimen format is preferable so we can size the sample. We are also looking for a few select materials such as those offered by the Clay Minerals Society which could be used as calibration standards between instruments in different laboratories.

The contributor will receive copies of all analyses performed on the contributed sample and will be acknowledged as the source in the data sheet on that species.

Samples can be sent to:

Phoebe Hauff or Fred Kruse

Center for the Study of Earth from Space

CIRES campus box 449, University of Colorado, Boulder, Colorado 80439.

Thank you for your help.

2. A C S M - A S P R S

American Congress on Surveying and Mapping, American Society for Photogrammetry and Remote Sensing

New headquarters:

210 Little Falls Street, Falls Church, VA 22046, USA

1992 MEETING TO FOCUS ON GLOBAL CHANGE

Leading scientists from around the world will gather in Washington, D.C., August 1-14, 1992, to discuss monitoring global change, in a series of meetings sponsored by the American Society for Photogrammetry and Remote Sensing (ASPRS) and the American Congress on Surveying and Mapping (ACSM). Sessions will spotlight techniques for monitoring and evaluating changes involving the oceans, atmosphere, land, human and wildlife populations, cities and rural areas, across the face of the earth. During the two weeks, ASPRS and

ACSM will be meeting in conjunction with the International Society for Photogrammetry and Remote Sensing and the International Geographical Union.

ACSM is a national professional society representing 11,000 individual members, including surveyors, geodesists, cartographers, and geographic-information and land-information specialists. ACSM is dedicated to serving the public interest and advancing the profession of surveying, mapping and land information.

ASPRS is an international scientific association serving the professional needs of over 8,000 members around the world. Members are involved in the art, science, and technology of obtaining reliable information about physical objects and the environment through the process of recording, measuring and interpreting photographic images and patterns of electromagnetic radiant energy and other phenomena.

3. Second International Symposium on Geochemistry of the Earth's Surface and of Mineral Formation, July 2-8, 1990, Aix-en-Provence, France.

Contact address :
Prof. D. Nakon
University Aix-Marseille III
Marseille
France.

4. PICXAM

Pacific International Congress on X-Ray Analytical Methods, Honolulu, August 15-19, 1991.

Contact address :
Dr. J. Bogi
University of Technology, Sydney
Faculty of Physical Sciences
P.O. Box 123
BROADWAY, NSW 2007
Australia.

5. New Book (in Russian)

Yu. I. Tarasevich
STRUCTURE AND SURFACE CHEMISTRY OF LAYER
SILICATES.

Kiev : Naukova Dumka, 1988 - 247 pages.

6. 21st ANNUAL MEETING OF THE FINE PARTICLE SOCIETY

IN CONJUNCTION WITH THE 1990 SUMMER NATIONAL MEETING
AND CO-SPONSORSHIP OF
THE AMERICAN INSTITUTE OF CHEMICAL ENGINEERS
SHORT COURSES AND 1990 PARTICULATE AND
POWDER TECHNOLOGY EXHIBITION
AUGUST 21-25, 1990

SHERATON HARBOR ISLAND SAN DIEGO, CALIFORNIA

CALL FOR PAPERS

All individuals, academic and industrial, who are interested in the science and technology of fine particles are invited to submit two copies of a one-page abstract of 200 words with single spacing on or before APRIL 1, 1990 to the **MINERAL AND INORGANIC COLLOIDS** session. Papers will be accepted on any relevant subject dealing with the characterization, properties, and behavior of fine-grained inorganic materials including, but not restricted to, clays, zeolites, silica, and alumina.

- Please Check : I am planning to attend.
- Please send second announcement and registration forms.
- Please send information for short courses.
- I submit the enclosed abstract(s)
-
- I am interested in the exhibition.

Please complete the following (Print legibly or type):

Name :

Title :

Affiliation :

Mailing Address :

City :

State/Zip Code/Country :

Telephone : Country Code/Area Code/Number :

Mail to Dr. P. M. Costanzo
Organizer and Chairman
Unilever Research U S, Inc.
45 River Road
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MEMBERSHIP

AIPEA accepts as members clay scientists, institutions, and companies. Members may join individually or through cooperating national scientific societies.

Please fill in the attached form for joining AIPEA and send it along with your dues payment to the Treasurer.

The annual membership fees are as follows :

Individual member of an Affiliated Society *	US\$ 4.00
Individual member	US\$ 6.00
Institution or Company (Corporate member)	US\$ 15.00
Life members (individuals)	US\$ 120.00

Your cooperation in observing the following suggestions in paying your membership fees will be appreciated :

1. Pay fees by :
 - (a) bank money order, payable in **US dollars**, or
 - (b) international postal money order, payable in **US dollars**.
2. Pay membership fees for three or five-year periods.
3. Make cheque or money order payable to AIPEA and mail to :

Dr. C. DEKIMPE
AIPEA Treasurer
Agriculture Canada
Land Resource Research Centre
Central Experimental Farm
Ottawa, Ontario K1A 0C6 (Canada)

* You may join AIPEA in this category if you are member of a national society affiliated with AIPEA.

AIPEA MEMBERSHIP APPLICATION FORM

(please print or type)

Family Name :

Given Name :

Title :

Mailing Address :

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Amount of dues enclosed : \$ for years

Type of membership :

If you are an individual member of an Affiliated Society, give the name of the Society :

Date :

Signature :

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Table *Structural terms of reference and their equivalents in different languages*

English	French	German	Russian	Spanish	Italian
plane	plan	Ebene	плоскость	plano	plano
sheet	couche	Schicht	сетка	capa	strato
layer	feuillet	Schichtpaket	слой	lámina	pacchetto
interlayer	espace interfoliaire	Zwischen-schicht	МЕЖСЛОЕВО ПРОМЕЖУТОК	espacio interlaminar	interstrato
unit structure	unité structurale	Struktur Einheit	(межслой) пакет	unidad estructural	unita strutturale

CHANGE OF ADDRESS NOTICE

Name :

New Address :

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Date effective :

Please mail to the AIPEA Treasurer, Dr. C. Dekimpe, Agriculture Canada, Central Experimental Farm, Ottawa, Ontario, K1A 0C6, Canada.